

# **Step One: You Call It What It Is!**

-

**Arizona Nutrition &  
PA State Plan;  
Kick-off Conference,  
Feb. 2005**



**Mark Fenton**  
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**Pedometer Guess?**

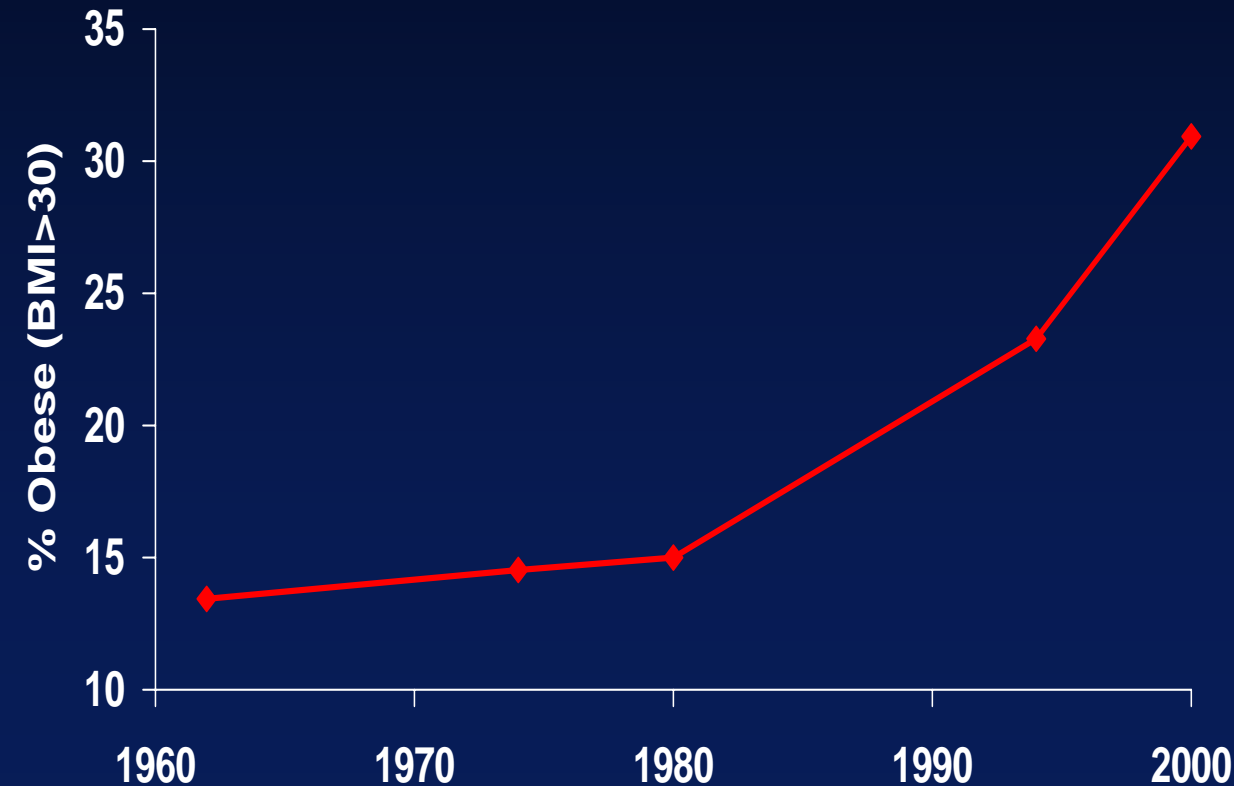
# **Six steps to fighting the “Obesity Epidemic”**

- 1. Call it what it is.**
- 2. Start with tried and true methods . . .**
- 3. But don't stop there.**
- 4. Build in STICKINESS.**
- 5. Take someone new to lunch.**
- 6. Break out of the silos--starting today!**

# First sign of the chronic disease apocalypse:

## US “Obesity Epidemic”

Ogden et. al. (JAMA 288, 14; Oct. 2002)





# “Supersize Me?”



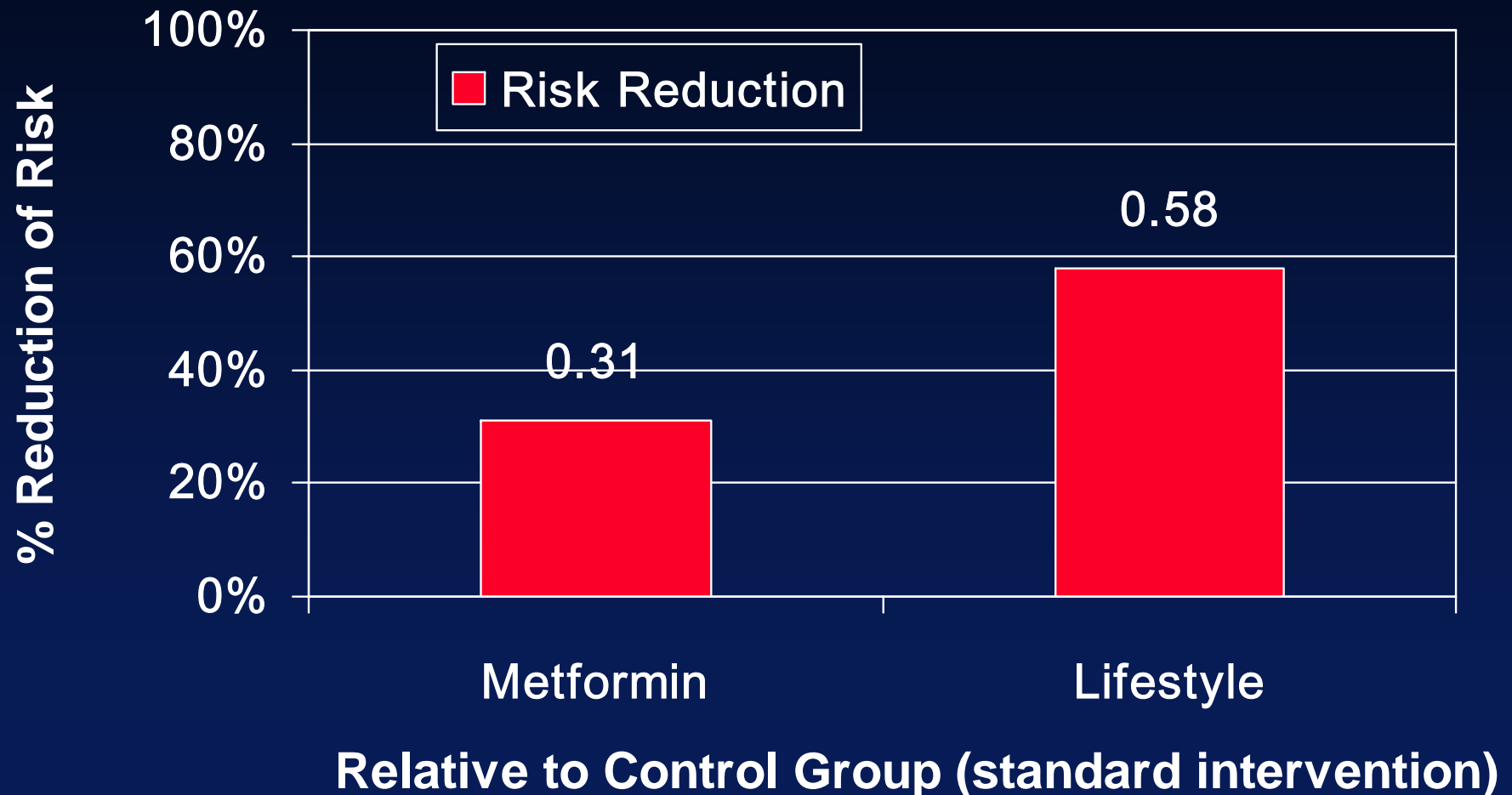
# Diabetes Prevention Program (DPP)

Compared three treatments for nationwide cohort (3,000+) at risk for developing diabetes (elevated fasting glucose).

1. Control: Standard exercise and nutrition counseling; placebo.
2. Standard plus drug treatment: Metformin
3. Intensive lifestyle change: Nutritional training, **150 min./week physical activity.**

# Diabetes Risk Reduction

(Diabetes Prevention Program; NEJM, April 2002)



## **Recommendation 1:**

**Change the conversation. It's not just an obesity epidemic.**

**It's an epidemic of physical inactivity and poor nutrition.**

**Tried and true  
behavior change.**











# Individual Behavior Change Aids

See Dunn & Blair, “Active Living Everyday”

- Social support
- Scheduling
- Goals, rewards
- Measurement
- Record keeping
- Substitution
- Mapping





**Let's have  
a Health  
Fair!**



**But how much, and what activity to  
recommend to average people?**

# The Activity Diamond



**And which physical  
activity should we  
promote . . . ?**

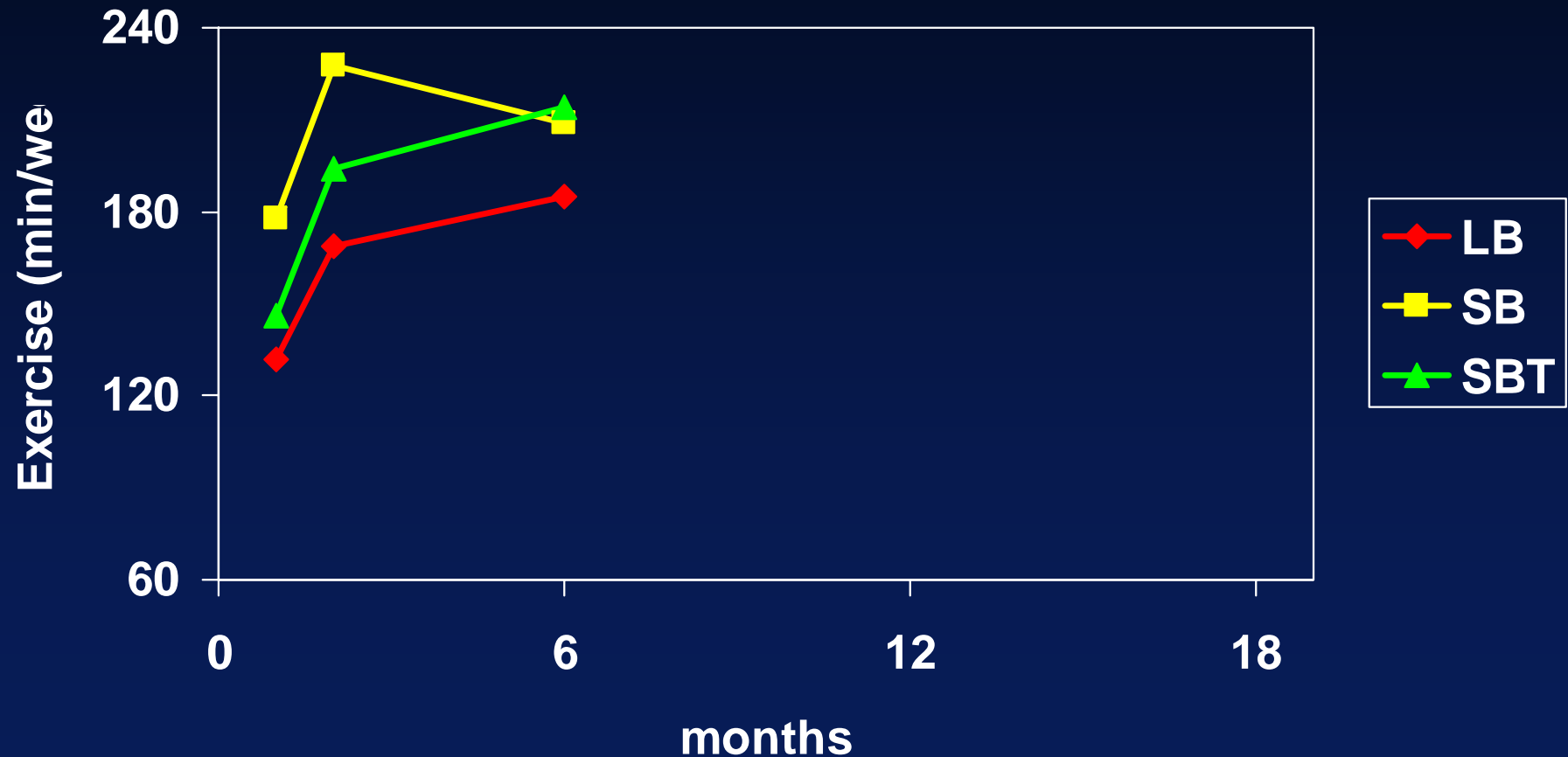
# **Does your exercise . . .**

- **Cost more than \$100 to get started?**
- **Cost more than \$10 each time?**
- **Need special equipment or instruction?**
- **Require you to go somewhere special?**
- **Need other people to take part?**
- **Not provide much enjoyment?**
- **Make it hard to do it at work?**
- **Have a high risk of injury?**

# Exercise Participation

## Effect of Short Bouts, Home Treadmills

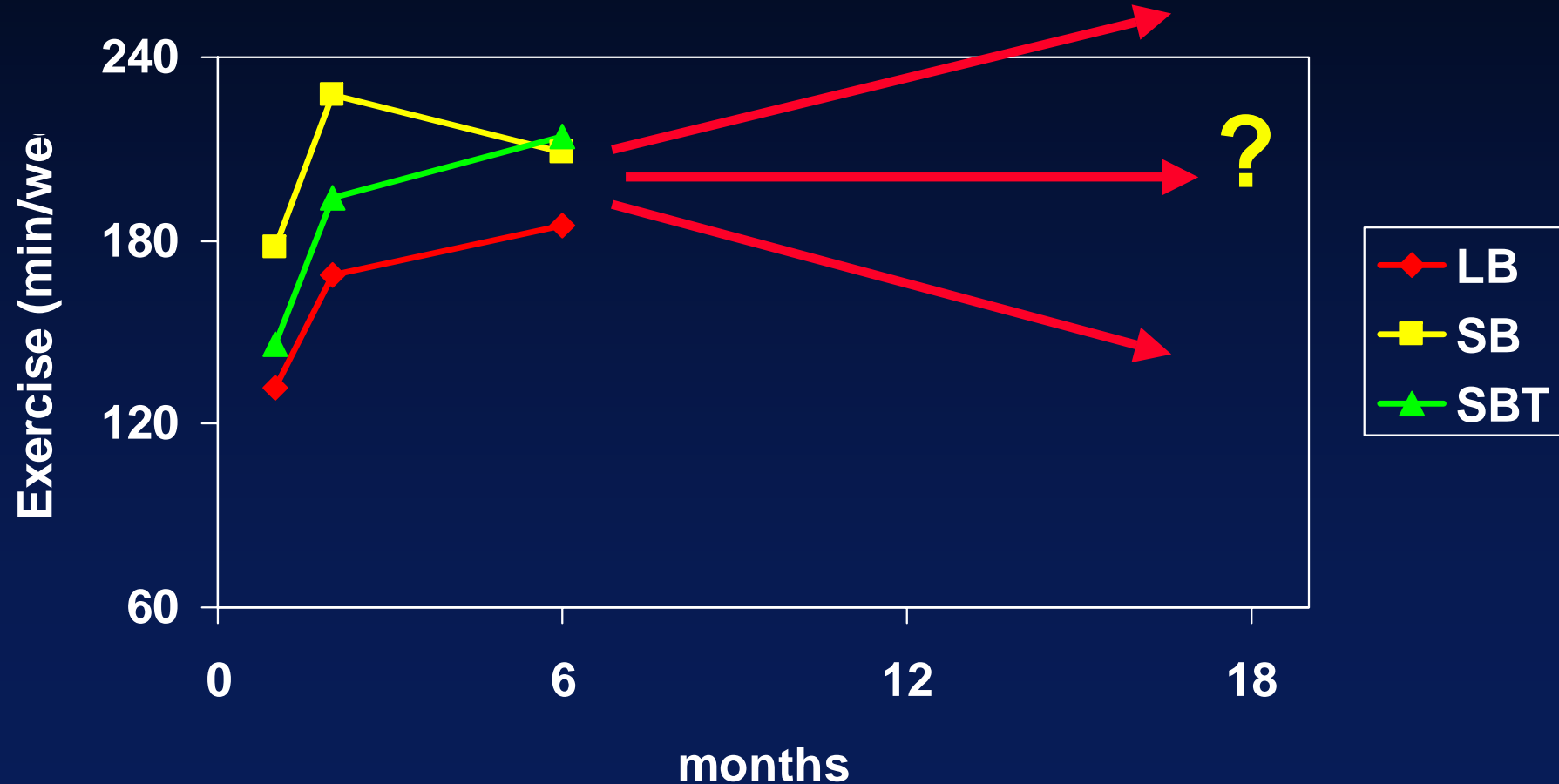
(Jakicic et.al., JAMA 282, 16)



# Exercise Participation

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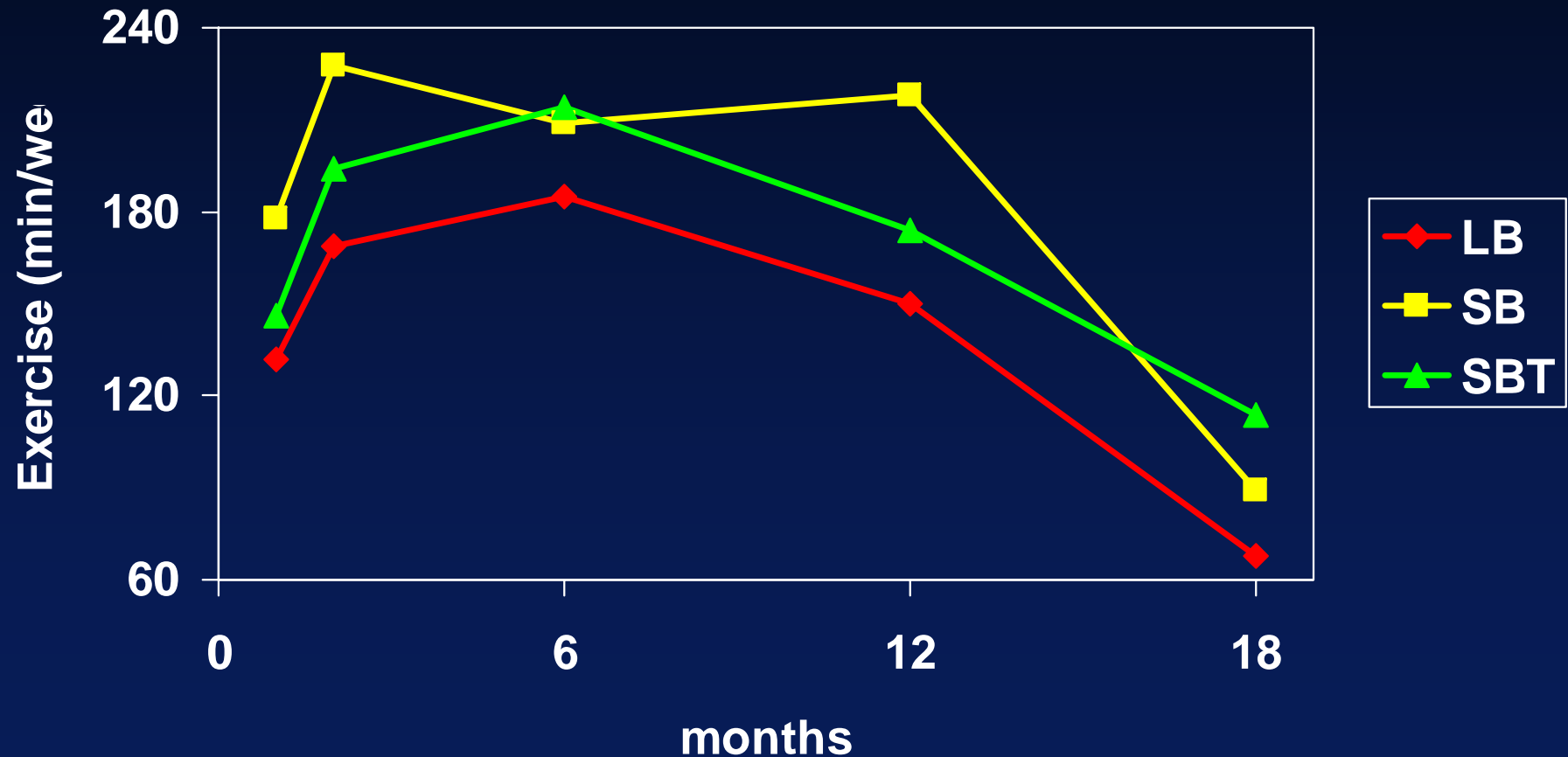
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# Exercise Participation

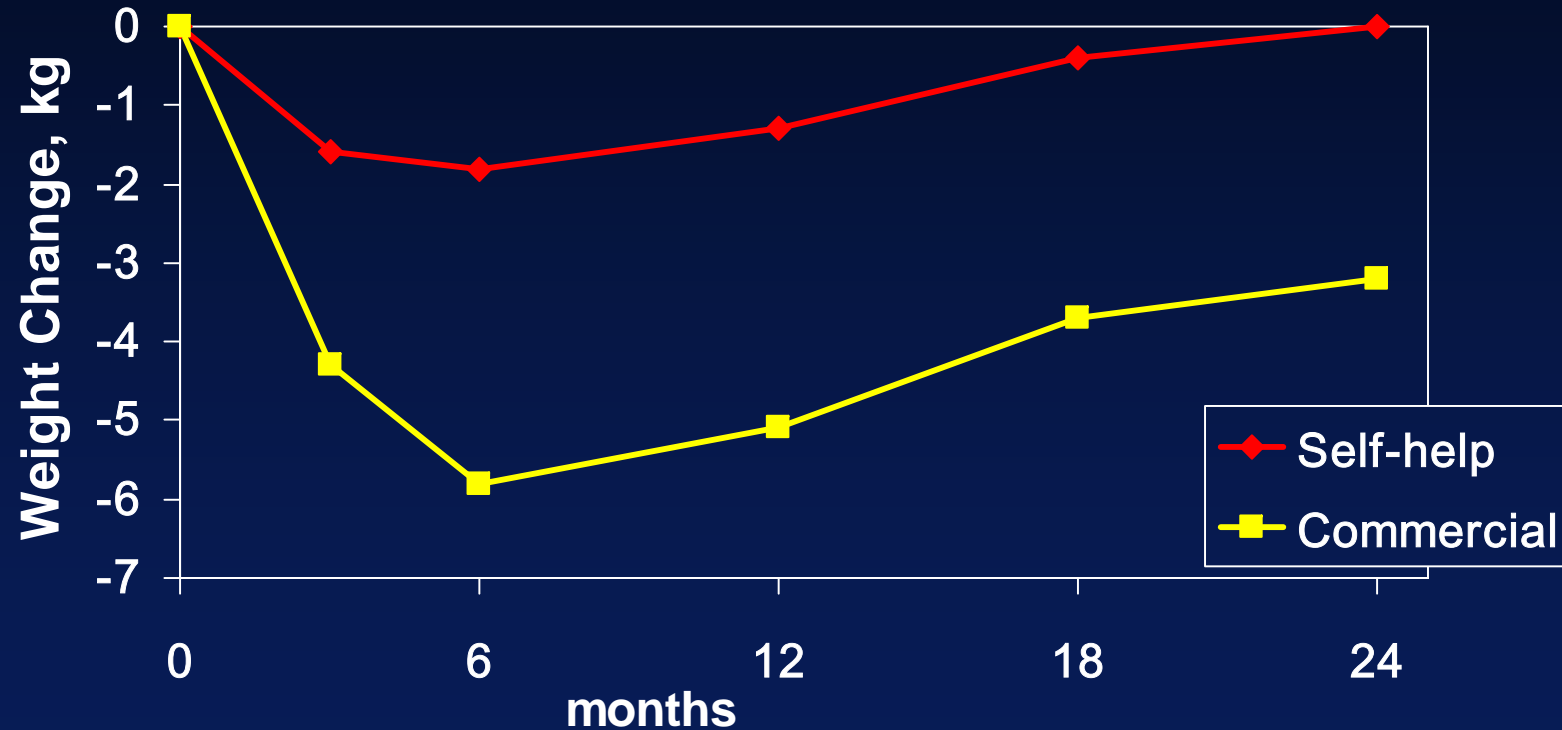
## Effect of Short Bouts, Home Treadmills

(Jakicic et.al., JAMA 282, 16)



# Self-help vs. Commercial Weight Loss Programs

(Heshka et.al., JAMA 289, 14; April 9, 2003)





**Recommendation 2:**  
Do not just focus on  
“exercise.” We need  
increases in **routine, daily**  
**physical activity.**

# E.g., America on the Move:

Pedometer based,  
targets 2,000 step/day  
increase.

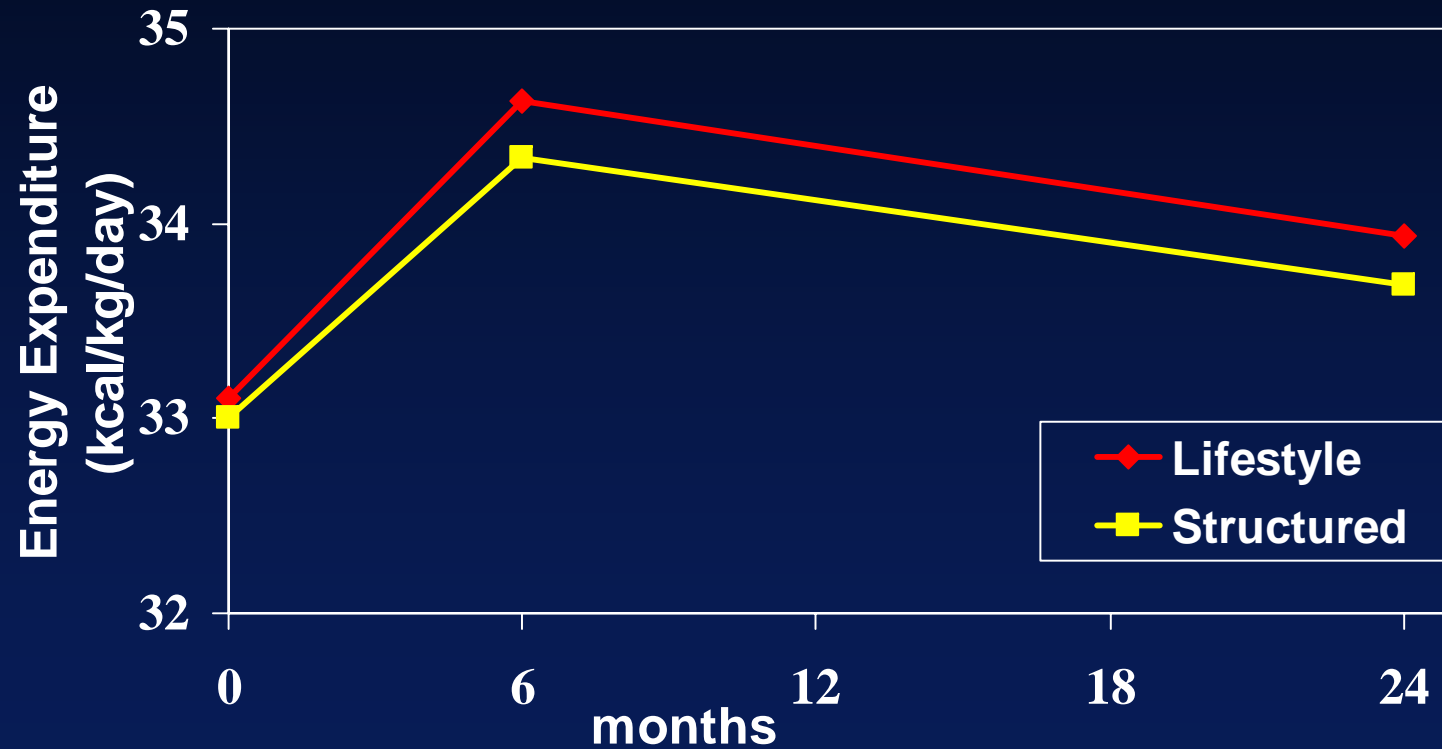
The focus is on routine  
lifestyle activity.

[www.americaonthemove.org](http://www.americaonthemove.org)



# Energy Expenditure Lifestyle vs. Structured Activity

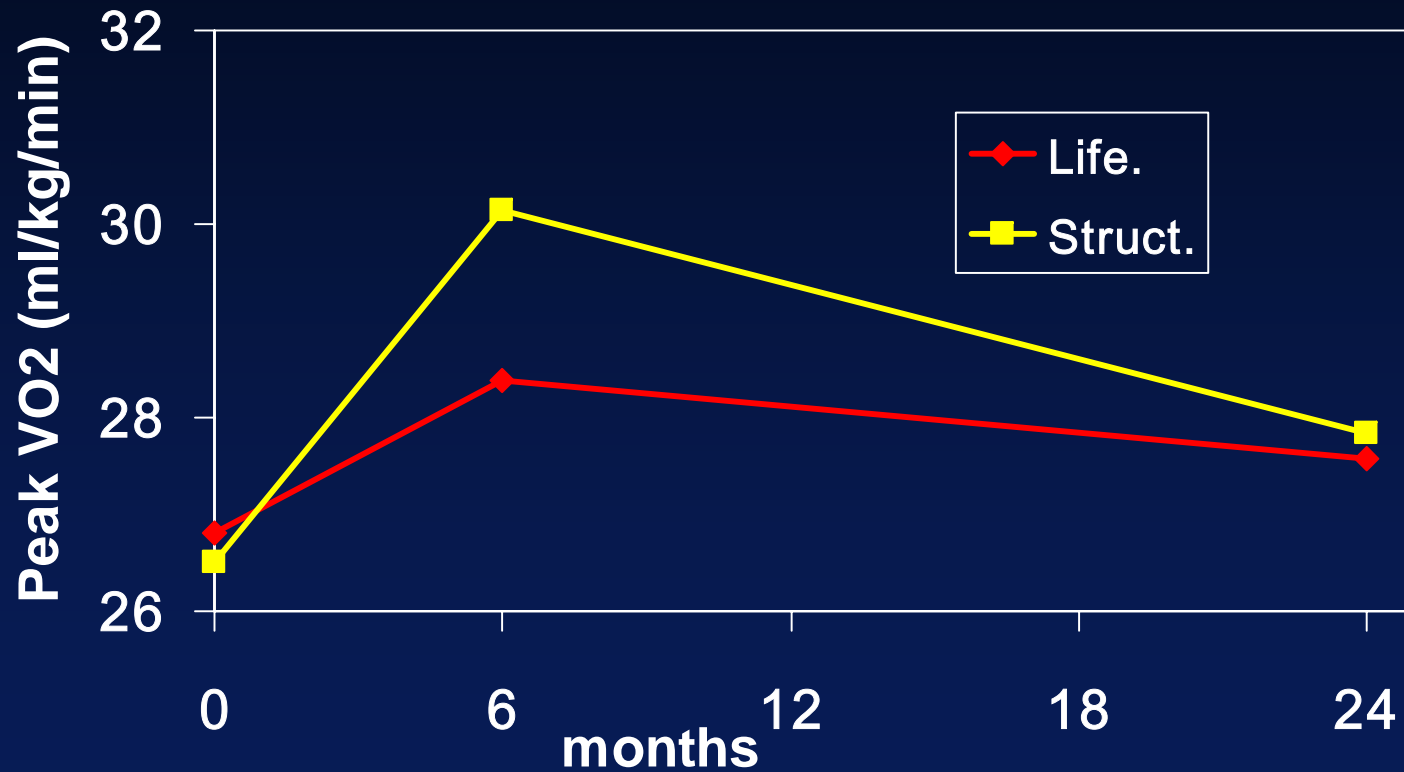
(Dunn et.al., JAMA 281, 4)



# Fitness (peak $\text{VO}_2$ )

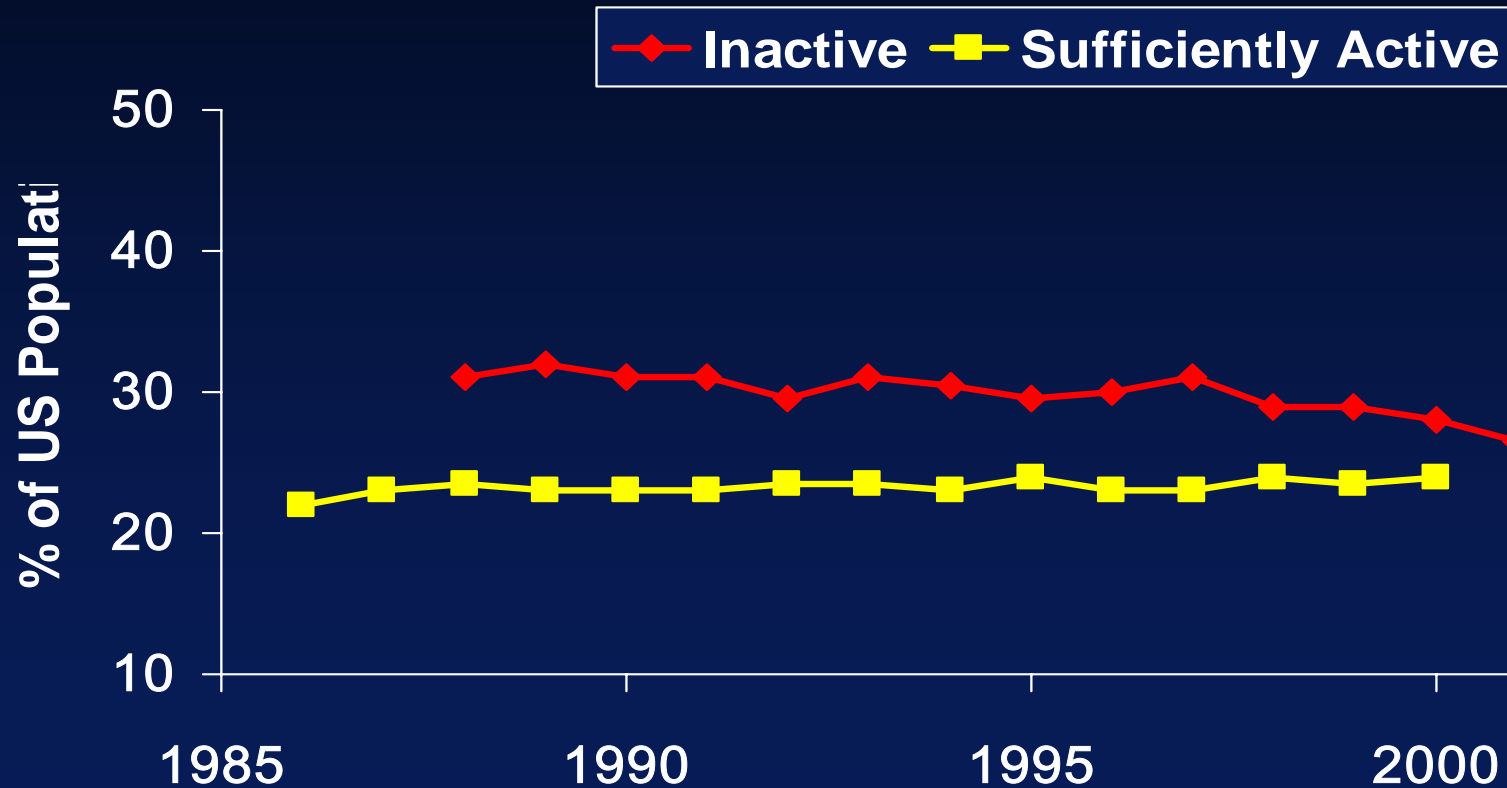
## Lifestyle vs. Structured Activity

(Dunn et.al., JAMA 281, 4)



# Physical Activity in the US

(MMWR 50 (09); 166-9; Mar. 9, 2001)



**Beyond tried and  
true: more than just  
behavior change.**

**An approach to  
increasing  
physical activity . . .**

**P.A.P.P.I. (?)**





# **P**hysical **A**ctivity **P**romotion through **P**redator **I**ntroduction



# Social Ecology Model

Determinants of behavior change

Sallis, Owen, “Physical Activity and Behavioral Medicine.”

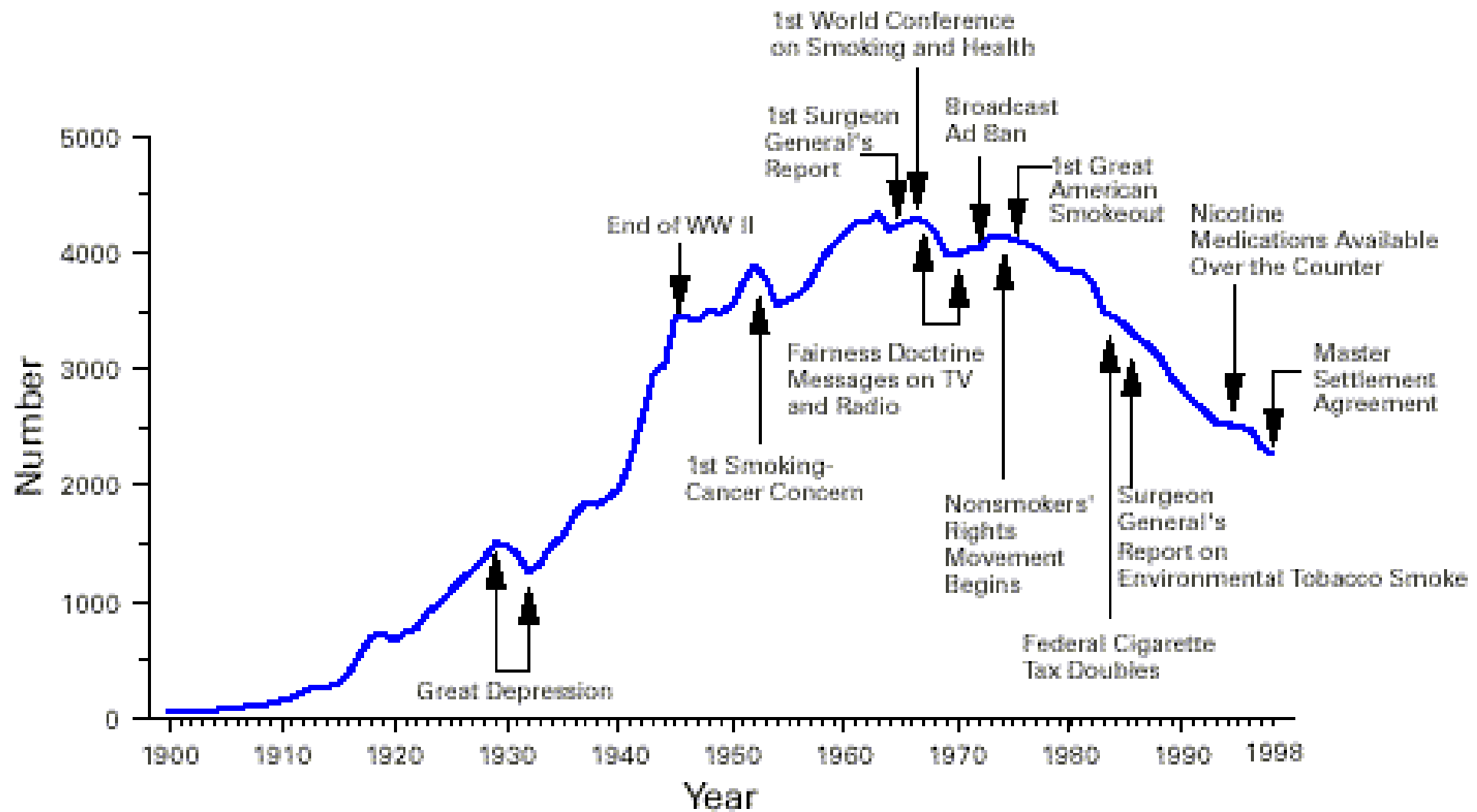
- Individual (readiness, efficacy)
- Interpersonal (family, friends)
- Institutional (school, work, HMO)
- Community (networks, local gov't)
- Public Policy (transport, land use)



# **Socio-ecological success: tobacco**

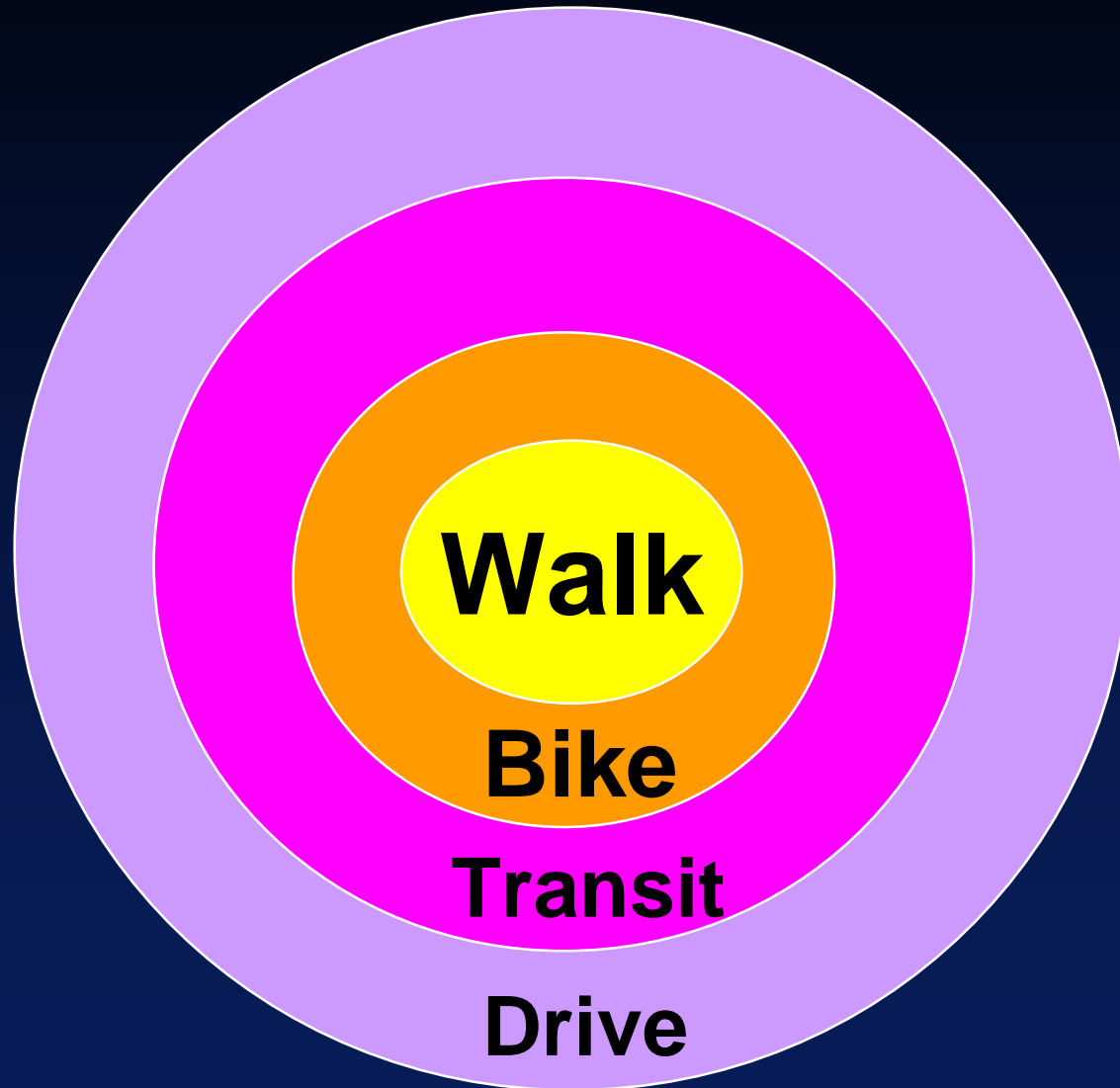
- **Individual – education, medication**
- **Interpersonal – 2<sup>nd</sup> hand smoke, kids**
- **Institutional – work place bans**
- **Community – smoke free policies**
- **Public Policy – taxes, enforcement, advertising bans, SG's warning label.**

**FIGURE 1. Annual adult per capita cigarette consumption and major smoking and health events — United States, 1900–1998**



Sources: United States Department of Agriculture; 1986 Surgeon General's Report.

# The ideal “trip” decision hierarchy\*:



**\*Nearly 25% of trips are less than or equal to one mile.  
(1995, NPTS)**

## **Recommendation 3:**

**Being physically active has  
to become the easier choice -  
actually safer, more  
convenient, and more fun  
than being sedentary.**

**Time to get sticky!**





# So what seems to matter?

- Land use mix.
- Network of bike & pedestrian facilities.
- Site design and details.
- Safety.





# Land use research suggests more walking if:

- Higher housing densities.
- Greater mix of uses (homes, work, schools, shopping, recreation, etc.)
- Convenience!



# Network research suggests more walking if:

- Presence of sidewalks, paths.
- Shorter blocks, more frequent intersections.
- Access to trail, park, greenway.

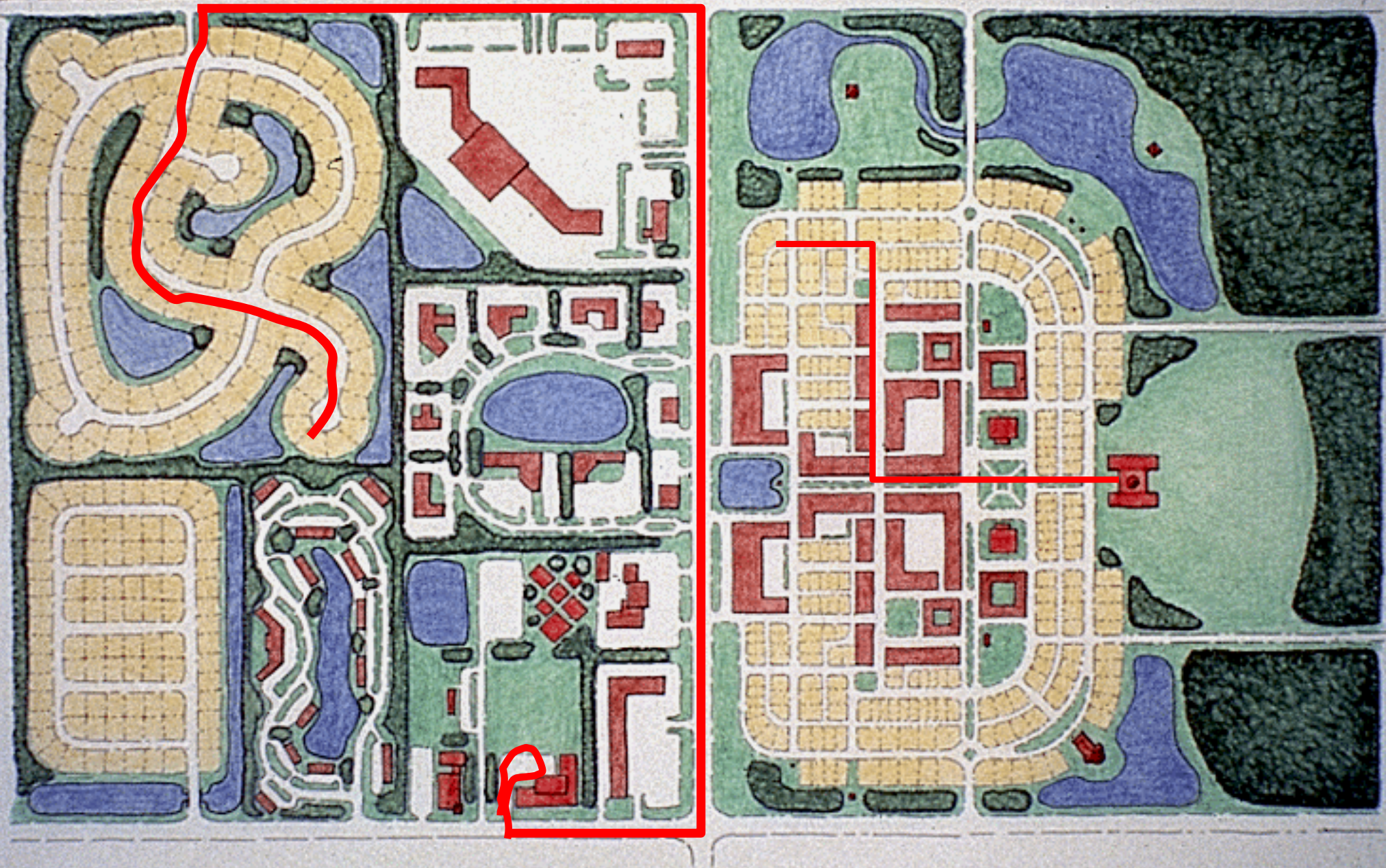




# Bicycle network options:





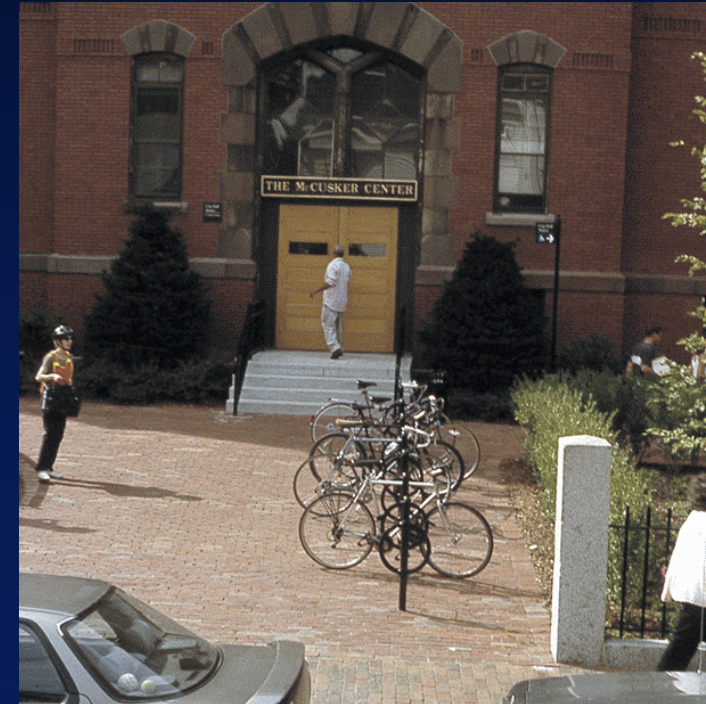




# Site design.

## Research suggests:

- Pedestrian friendly architecture is near the street, not set back.
- Trees, benches, water, aesthetics, human scale.
- Details: bike parking, open, clean stairwells . . .





# Site design:



Where would  
you prefer to  
shop on foot?



# Safety Research suggests:

- Engineering can dramatically improve safety.
- Increasing ped and bike trips *decreases* accident & fatality rates.



(Jacobsen et.al., *Transportation Safety*)

**Median  
islands.**



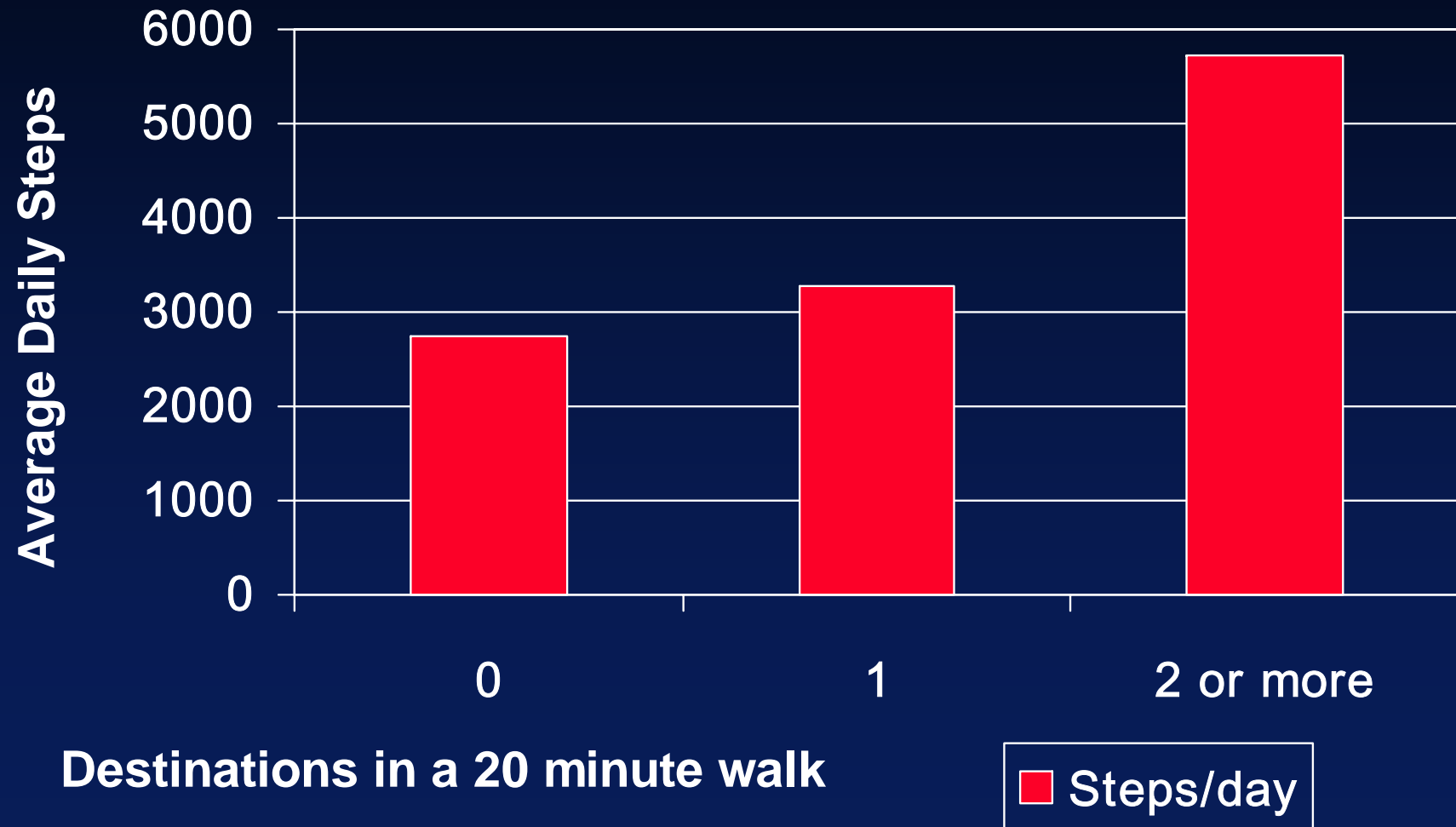
**Curb  
extensions.**





# Convenience of Destinations and Walking for Older Women

King et.al., AJHP 18(1) Sep. 2003.



# Experience suggests walkable, bikable places have:

A civic commitment to walking and cycling, from top to bottom.



**Recommendation 4:**  
The **built and policy environments matter**, so work on improving them.  
Start by getting people realizing what works and what doesn't.

**Who are your new  
lunch dates?**

# Anyone who can help with the three P's!

- **Programs:** Build awareness, support, skills, & plans.
- **Projects:** Improve the built environment for walking, cycling
- **Policies:** Rewrite the rules so the changes stick!

# Typical outreach, social marketing programs.



- Pedometers, pamphlets, T-shirts, health fairs.
- Worksite activity groups.
- Workshops, instruction.



# International Walk to School Day



October 5, 2005.  
[www.walktoschool.org](http://www.walktoschool.org)





**E.g., Employer  
transit passes, bike  
parking, lockers,  
showers.**

**Walk & bike to  
work; transit;  
demand  
management.**



# Start with one-shot events, but look toward long-term impacts.

- Monthly, weekly, daily farmer's market.
- Street fair (on a road considered for calming or closure).





# Prioritizing projects: Walk & Bike checklists.



- Room to walk/ride?
- Able to cross?
- Traffic a problem?
- Safe, pleasant?
- Accommodating?
- Ample destinations?

[www.pedbikeinfo.org](http://www.pedbikeinfo.org)

# Stickier: Safe Routes to School projects.

- Build, repair sidewalks and trails, remove barriers.
- Crosswalks, signals; crossing guards.
- Relocate drop-off areas, car-free zones.
- Bike parking.
- **Slow traffic.**





# National Safe Routes to School Training Course

- Workshops in Tucson, AZ
- **Thur. March 3.**
- Need **health sector** participation.
- UNC Pedestrian & Bicycle Information Center



[www.pedbikeinfo.org](http://www.pedbikeinfo.org)  
Lauren: 919-962-7412



# Walkable Community Workshops



**National Center  
for Bicycling  
and Walking**  
**[www.bikewalk.org](http://www.bikewalk.org)**



# Michigan Governor's Council on Physical Fitness, Sports, and Health . . .



# Nebraska Dept. of Health and Human Services CVH Program . . .



# Adopt a trail programs . . .



**Clean, patrol,  
maintain, or  
even build a  
section.**



**Pedestrian &  
bicycle advocacy  
groups; local and  
statewide.**



**America Walks:**  
[www.americawalks.org](http://www.americawalks.org)  
**League of American  
Bicyclists:**  
[www.bikeleague.org](http://www.bikeleague.org)



**Show up at (serve on?) policy-making entities:**



**Planning, zoning,  
school, recreation,  
neighborhood,  
conservation,  
commerce,  
historical . . .**



# Change the rules.

- **Zoning codes:** Mixed uses, accessory dwellings, density bonuses.



- **Site requirements:** Max. setbacks & curb-cuts; limit drive-throughs.
- **Subdivision rules:** Curbs, sidewalks, road widths.

# “Travel and Environmental Implications of School Siting”

EPA (Oct '03)

- More kids walk and bike to better sited schools.
- **Air quality** is measurably **better** around these schools.



[www.epa.gov/smartgrowth](http://www.epa.gov/smartgrowth)

# Safe Routes to School Funding . . .

- CA: \$20 million/year.
- TX, MA: \$5 million/year.
- AZ: ????????????????

## Possible federal program:

- \$70-\$250 million/year.

## **Recommendation 5:**

**Bring this into your work—  
everything you do—and *also*  
be a **role model and local  
change agent**. Otherwise  
don't even bother talking  
about it.**



**Start today on  
increasing  
STICKINESS.**

# Our typical path:

<b>Health care</b>	Health professional exercise counseling, prescription pads.
<b>Work sites</b>	Health fairs, lunch time walking groups.
<b>Schools</b>	Increased PE, recess time, teacher training.
<b>Community, Steps Projects</b>	Sports & recreation programs, senior walking groups.
<b>Physical environment</b>	Parks, trails, athletic fields, basketball courts.

# A Stickier way to think:

	<b>Physical Environment</b>
<b>Health care</b>	Health professional testimony on zoning, transportation.
<b>Work sites</b>	Stairwells, bike parking, showers, lockers, parking fees.
<b>Schools</b>	Safe Routes to School, paths, safety education, enforcement.
<b>Community, Steps Projects</b>	Sidewalk & trail network, traffic calming, mass transit.









**This guy**  
is a new  
model of  
success!



# The role of public health:

- Enumerate: An epidemic of **physical inactivity** and poor nutrition.
  - Enunciate: **Engineering** routine activity back into our lives.
- Collaborate: Create **interdisciplinary teams**, launch models of success.
- Facilitate: **Institutionalize**; change the rules, how we do business.



# E.g., Governor's Task Force to update the MA Highway Design Manual:













# The Story of “4”:

4,000

**Approximate number of  
annual pedestrian deaths in  
America.**

**40,000**

**Approximate total annual  
deaths in motor vehicle  
crashes.**

**400,000\***

**Approximate annual deaths  
due to sedentary living and  
poor nutrition.**

**\*Rounded up from corrected 365,000.**



**40,000,000,000**

**\$40,000,000,000**

**Approximate direct annual  
medical expenditures due to  
obesity, borne by taxpayers.**

**[www.cdc.gov/nccdphp/dnpa/](http://www.cdc.gov/nccdphp/dnpa/)**

**(Obesity Research, Finkelstein et.al., Jan, '04)**

# Calculate the cost of inactivity at: [www.activelivingleadership.org](http://www.activelivingleadership.org)

**E.g.:** Business employing ~250 in  
central AZ. Annual costs of  
physical inactivity:

• <b>Medical care:</b>	\$40,703
• <b>Worker's comp.:</b>	\$1,455
• <b>Lost productivity:</b>	<u>\$481,241</u>
• <b>Total:</b>	\$523,399



# How do you help?

- **Speak up:** To patients/clients, to media, to community leaders.
- **Act up:** Help improve the built environment for walking, cycling.
- **Step up:** Be a role model—build more activity into your day!

**Speak up:**

# Speak up:

- **Prescribe physical activity to patients/clients.**
- **Be specific—give amount, frequency, type, etc.**
- **Demand follow-up: Exercise log? Check-in visit?**



# Speak up:

- No more 'obesity epidemic.'
- Prescribe **physical activity** to patients, clients, friends, family.
- Encourage routine physical activity, help people build **active lifestyle skills**.
- Be an advocate for more **walkable, bicycle-friendly** communities.

# How many steps?

- For long-term health:  
10,000
- For weight loss:  
12,000 - 15,000
- For fitness:  
3,000 + *fast*



# Pedometers: 20% Boost Approach

Not everyone  
starts at  
5,000 steps  
per day.  
Begin by  
measuring  
baseline first!



**Key to Success: Keep a record!**



# Walk & Bike checklists: Not glamorous, but effective.



- Room to walk/ride?
- Able to cross?
- Traffic a problem?
- Safe, pleasant?
- Accommodating?
- Ample destinations?

[www.pedbikeinfo.org](http://www.pedbikeinfo.org)

**Act up**



**Get involved in  
local and statewide  
advocacy groups.**



**America Walks:**  
[www.americawalks.org](http://www.americawalks.org)  
**League of American  
Bicyclists:**  
[www.bikeleague.org](http://www.bikeleague.org)



**Show up at  
(or serve on)  
a local board:**



**Planning, zoning,  
school, recreation,  
neighborhood,  
conservation,  
historical, chamber  
of commerce . . .**

# “Travel and Environmental Implications of School Siting”

EPA (Oct '03)

- More kids walk and bike to better sited schools.
- **Air quality** is measurably **better** around these schools.



[www.epa.gov/smartgrowth](http://www.epa.gov/smartgrowth)



# Change the rules.

- **Zoning codes:** Mixed uses, accessory dwellings, density bonuses.



- **Site requirements:** Max. setbacks & curb-cuts; limit drive-throughs.
- **Subdivision rules:** Curbs, sidewalks, road widths.



# Florida Governor's Task Force on Obesity, recommendations:



**Directs the Department of Transportation to routinely accommodate bicyclists and pedestrians in all projects.**

# Safe Routes to School Funding . . .

- CA: \$20 million/year.
- TX: \$5 million/year.
- CT, MA, RI, VT, NH ,ME, NY: ??

## Possible federal program:

- \$70-\$250 million/year.

**Step up**



# Join or create a Walk to School Day Event



October 5, 2005.  
[www.walktoschool.org](http://www.walktoschool.org)

# Safe Routes to School

- Build awareness.
- Increase demand.
- Launch coalitions.
- Begin environmental improvements.



[www.ctive.com](http://www.ctive.com)  
trips to  
school: 14%  
(Walk: 11%;  
Bike: 3%)

**MMWR**  
**Aug. 2002.**



**Be an active  
role model:**



**Leave the car behind at least one  
trip per week; walk, bike or take  
transit instead.**



## **Recommendation 5:**

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everything you do—and *also*  
be a **role model and local  
change agent**. Otherwise  
don't even bother talking  
about it.**

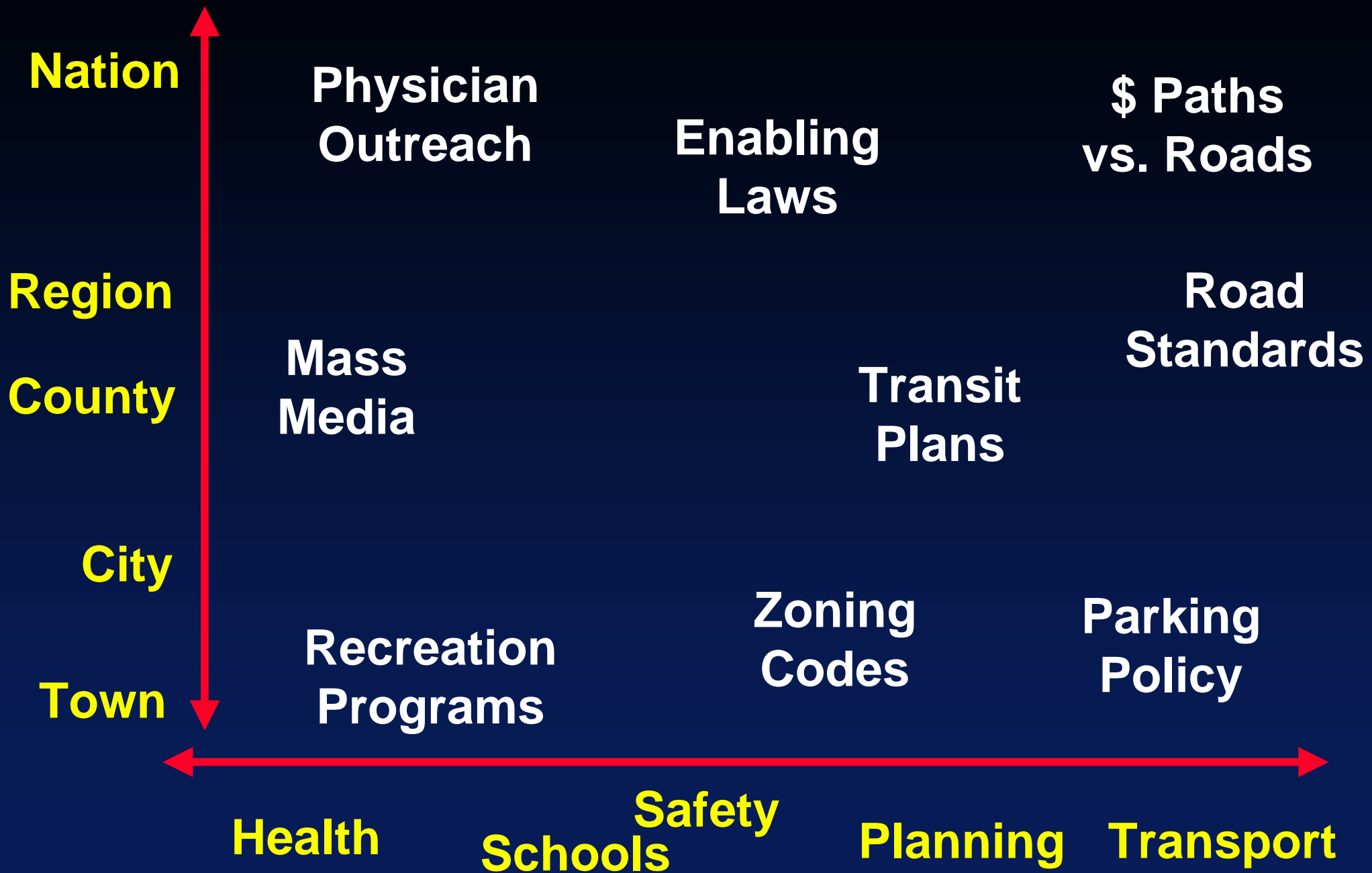
# To be clear:

- Researchers: Move from the laboratory to the **population**—determinants of PA in individuals, environments, programs.
  - Practitioners: Strive for **stickier interventions**; Think social ecology.
- Teachers & students: Elite athletes or **citizen participants**?
- Everyone: Become **role models** and community change agents.





# **Vertical and Horizontal Integration**



**Nation**

**Walk/Bike to School Day**

**Safe  
Routes \$**



**Region**

**Mass  
Media**

**School  
Siting**

**County**



**City**

**Physical  
Education**

**Town**

**Bike/Ped Safety Training**

**Walk Audits**

**Health**

**Safety  
Schools**

**Planning**

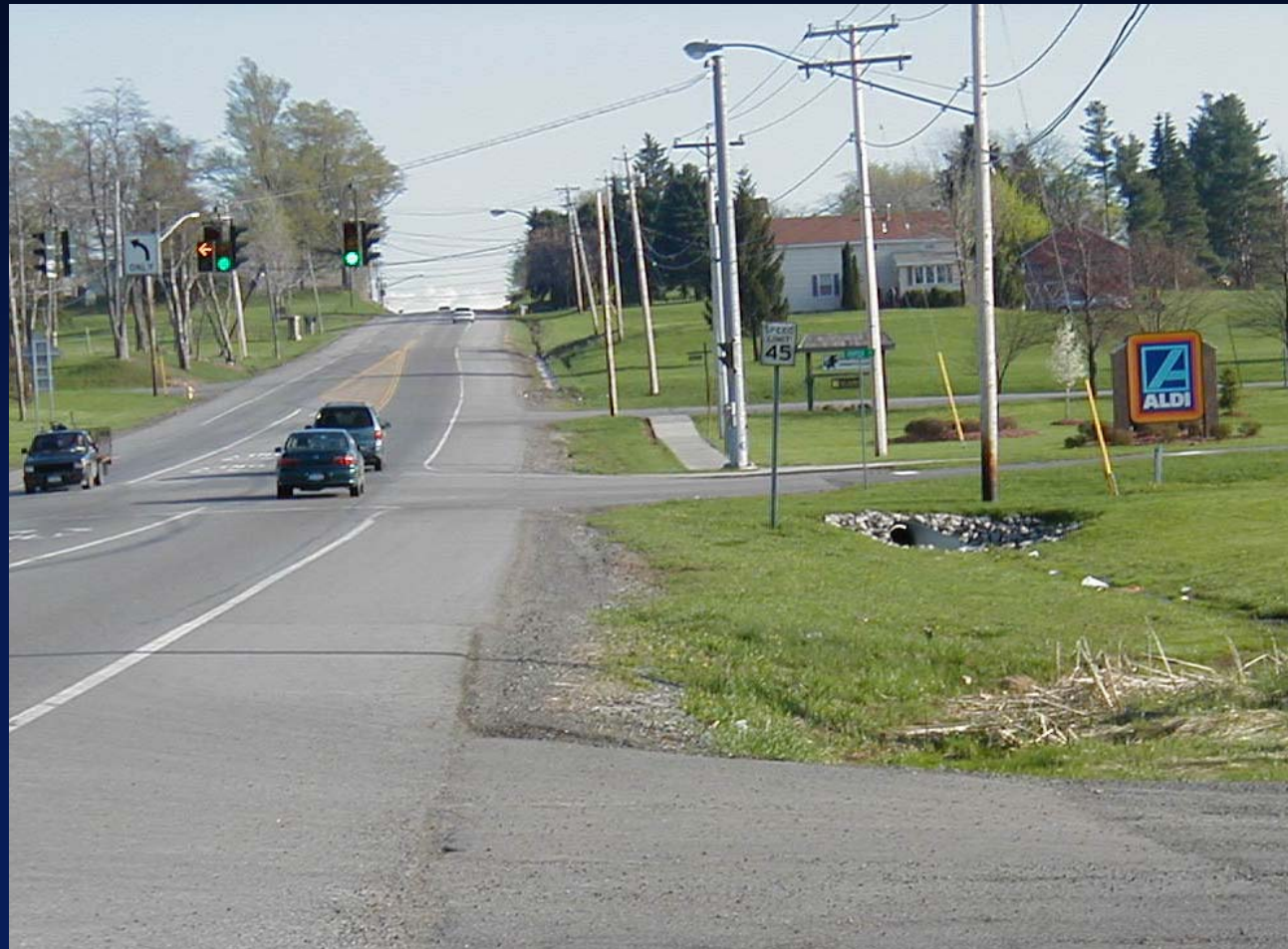
**Transport**



# The Wild Future of Physical Activity Promotion?

- ↑ • Parking costs & restrictions.
- ↑ • Toll roads, fuel taxes.
- ↑ • Congestion charges (e.g. London)
- ↑ • Mileage-based auto insurance.
- ↓ • Location efficient mortgages.

# The gallery of shame (and hope).





# How fast do cars go here?



25 mph?

45 mph!



# Policies

# Programs

# Safe Routes to School

- Build awareness.
- Increase demand.
- Launch coalitions.
- Begin environmental improvements.



**Active trips  
to school:  
14%  
(Walk: 11%;  
Bike: 3%)**

**MMWR  
Aug. 2002.**



# N-Lighten Nebraska.

- 2 to 10-person teams.
- % weight-loss or miles-walked.
- 4 month competition.
- On-line registry and information.
- Proven tactics: record keeping, social support.



[www.n-lightennebraska.org](http://www.n-lightennebraska.org)